STATINTL

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MINNEAPOLIS-HONEYWELL REGULATOR CO.
AERONAUTICAL DIVISION

ENGINEERING CHANGE PROPOSAL

ADM-956 REV. 8/60

FOR USE WITH ANA BULLETIN NO. 391

CONTRACTOR'S RECOMMENDED PRIORITY: ☐ EMERGENCY ☒ UPGENT ☐ ROUTINE

1 ECP NO.	DATE	CONTRACT NO.	ARTICLE IN PRODUCTION
#1 Revision #2	10-9-63	FL-4004	☒ YES ☐ NO

2 NAME OF COMPLETE ARTICLE: Navigation Panel

MODEL, TYPE DESIGNATION, SPEC, DWG. NO.: GG8006A1

3 NAME OF PART OR LOWEST SUBASSEMBLY AFFECTED: Switch Rotary

PART NO. & MODEL, OR TYPE NO. OF PART OR LOWEST SUBASSEMBLY AFFECTED: AD 907599-2

4 NATURE OF CHANGE
Change "Destination Select Switch" - Replace front panel to define new functions, add remote panel.
(see attachment)

GFE AFFECTED: YES ☐ NO ☒

DATE REQ. AT CONTRACTOR'S PLANT

5 REASON FOR CHANGE (INCLUDE EXPLANATION OF ITEMS CHECKED IN NO.7 BELOW OR BY EXHIBIT)
Increase capability of selecting destination from 8 to 40 and to give a positive indication when a fix is rejected. (See Attachment)

CHANGE (CHECK ONE)
- ☒ REQUESTED BY PROCURING ACTIVITY IN____
- ☐ INITIATED BY CONTRACTOR FOR____
  1. ☐ COMPLIANCE WITH NEW OR REV. SPEC.NO.____
  2. ☐ FIX FOR UNSATISFACTORY REPORT #____
  3. ☐ OTHERS____

6 ESTIMATED COST TO THE GOVERNMENT FOR CHANGE IN PRODUCTION (SHOW COST SEPARATELY AND, IF FIRM, SO STATE)

6A EFFECT ON CONTRACT PRICE
Will Increase FL-4004.

7 ITEMS AFFECTED BY CHANGE (CHECK APPROPRIATE BLOCKS)

☒ SAFETY	☐ COMBAT EFFECTIVENESS	☒ PERFORMANCE	☒ OPERATING PROCEDURE
☒ CONTRACT PRICE	☐ CONTRACT WEIGHT	☐ DELIVERY SCHEDULE	☐ MAINTENANCE PROCEDURE
☐ OVERHAUL METHODS	☐ SERVICE LIFE	☐ INTERCHANGEABILITY	
☒ SPARE PARTS EXHIBIT	☐ GROUND SUPPORT EQUIPMENT		

8 PUBLICATIONS AFFECTED BY CHANGE (LIST PUBLICATION NO. ONLY)

Pilot's Handbook	Prints - Nos.	C9880	New Prints
Operational Manual	GG8006A1	H6656	
	C9963	ESCG8006A1	

9 ESTIMATED PRODUCTION EFFECTIVITY POINT AND DATE (IF FIRM SO INDICATE)
N/A

10 DOES CONTRACTOR RECOMMEND CHANGE BE MADE RETROACTIVE IN ARTICLES DELIVERED ☒ YES ☐ NO

IS SERVICE BULLETIN RECOMMENDED ☐ YES ☐ NO

REASON FOR RECOMMENDATIONS
As requested by Procuring Agency

LINES 11 AND 12 BELOW SHALL BE COMPLETED ONLY FOR CHANGES WHEN THE CONTRACTOR RECOMMENDS OR THE PROCURING ACTIVITY DIRECTS THAT THE CHANGE WILL BE RETROACTIVE.

11 ESTIMATED PRICE OF MODIFICATION KITS OR PARTS (FOR PURPOSE OF ALLOCATION OF FUNDS)
STAT

ESTIMATED COST TO THE GOVERNMENT OF SPECIAL TOOLS, JIGS, FIXTURES, AND TEST EQUIPMENT
N/A

12 ESTIMATED MAN-HOURS PER UNIT TO ACCOMPLISH CHANGE IN ARTICLE
OA ☐ FM ☐ OH ☒ 1/109 man hours

SOURCE OF PARTS: Purchase

APPROXIMATE DATE KITS AND PARTS WILL BE AVAILABLE
3 Months After Go-Ahead

SOURCE OF SPECIAL TOOLS, JIGS, FIXTURES, AND TEST EQUIPMENT
N/A

APPROXIMATE DATE SPECIAL TOOLS, JIGS, FIXTURES, AND TEST EQUIPMENT WILL BE AVAILABLE
N/A

STATINTL

9 October 1963

ENGINEERING CHANGE PROPOSAL NO. 1

REVISION NO. 2

NATURE OF CHANGE

The modifications recommended by MH will provide the following:

1) Increase the 330 system destination capability from eight to forty.

2) Provide a positive indication if a fix is rejected.

3) Allows storing of fix points coordinates during preflight so the operator isn't required to insert coordinates during flight.

4) Allows selecting destinations from the instrument panel which is more easily reached and seen.

5) Maintains the capability of loading variable destinations and fixes in flight.

6) Allows for run-up on any known heading.

Note Item 6 will be costed separately.

These modifications will require the replacement of the present destination select rotary switch on the Nav Panel. The present face plate will be replaced with one containing the necessary engraving. An additional piece of hardware will be required to accomplish this modification, the attached drawing SK 89134 show these proposed changes.

In addition, a signal capable of driving 100 ma will be supplied to indicate a fix rejection. The indicator will be located on the vehicles malfunction panel.

During flight it will be possible to:

1) Select a prestored point as a destination.

2) Designate a prestored point as a fix point.

3) Select an arbitrary point as a destination.

4) Designate an arbitrary point as a fix point.

To select a prestored destination the DEST/FIX selector is set to the PRESTORED DEST position, the instrument panel digi switches are set to the destination member

desired, and the STORE button pressed.

To designate a prestored destination as a fix point, the DEST/FIX selector is set to the prestored fix positions, the instrument panel digi switches are set to the desired member, and the STORE button is pressed when the fix point crosses the horizontal line on the drift sight.

To select a variable destination, the DEST/FIX switch is set to the manual destination position, the Nav Panel digi switches are set to the desired coordinates, and the STORE button is pressed.

To select a variable fix point, the DEST/FIX switch is set to the manual fix position, the Nav Panel digi switches are set to desired coordinates, and the STORE button is pressed when the fix point crosses the horizontal line on the drift sight.

The program changes necessary to accomplish the above will be provided as part of the ECP.

Since programming changes are required to provide 40 destination capability, and the present 330 program is estimated to be only 70% efficient, MH recommends the 330 program be completely rewritten to provide the following:

1) Preflight procedure which is identical to the present procedure.

2) Program space stable azimuth capability so that preflight can be performed on any known heading.

3) Program reasonableness checks and redundant storage of basic quantities to provide added capability to correctly navigate in the face of intermittent troubles such as power transients.

4) More simple and efficient programs which will free additional computer memory.

The cost of this effort is broken out separately for your consideration.

STATINTL

9 October 1963

ENGINEERING CHANGE PROPOSAL NO. 1

REVISION NO. 2

REASON FOR CHANGE

Safety - Changes allow selecting destinations from the instrument panel which is more easily reached. The additional destination capability allows selection of emergency fields.

Spare Parts Exhibit - The Nav Panel switch and face plate will be replaced. In addition a new piece of hardware will be provided.

Operating Procedure - Since the operating procedure has changed, the operator must be aware of his actions with regard to the DEST/FIX Nav Panel switch and the instrument panel digi switches.